

The DX Bulletin

America's Premier Weekly Amateur Radio Publication

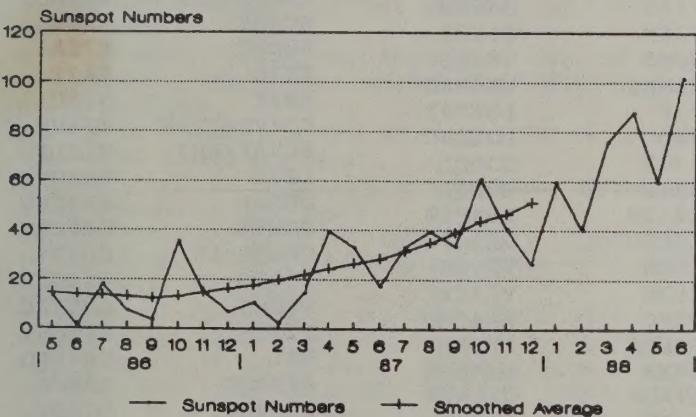
SPECIAL REPORT

Sunspot Cycle 22

The sunspot number for June, 1988 was 101.8, and solar flux averaged 140 for the month! This raised the 13-month smoothed sunspot number for December, 1987, to 51.3. July started off with a huge increase in solar activity, so look for more of the same this month.

Cycle 22 continues to run far ahead of any previous cycle, although the gap between Cycle 22 and the great Cycle 19 is closing. If present trends continue, look for smoothed sunspot numbers of 80-100 by this Fall, only two years after the start of Cycle 22. This would be higher than the equivalent point in Cycle 21 in the late 1970s, but below Cycle 19, of the late 1950s. In any case, be ready for excellent DXing this Fall!

Sunspot Numbers Raw and Smoothed Values



[For the past few months, The DX Bulletin has been making our own daily propagation forecasts, based on N4XX's charts. Although the early stages of a sunspot cycle are the most difficult to predict, because solar activity varies widely from week to week, The DX Bulletin's forecasts have been correct 69% of the time, not bad for our first try at the forecasting game. But always remember to check WWV at 18 minutes after the hour, and to tune the bands, in case it is one of the 31% incorrect forecasts! -ed.]

AWARDS

Awards from Tiny Countries, Part 1 By Ted Melinosky K1BV

DXers especially seem to enjoy working the little countries of the world. It's more of a challenge, plus it does something for the ego of the armchair traveler in all of us to casually mention to fellow workers that you chatted with Oman or a guy in the Solomon Islands. (No, you don't tell them the substance of your conversation was a frenzied "59 59 IN NEW JERSEY ---MY NAME IS BOB BOB 73 !!!" No, it's better they not know about that!)

Well, it's even better when you can show off a certificate for contacting these guys -- at least you don't have to exaggerate about that. Quite a few of these little countries do offer awards for making just a few contacts with their rare stations. Here is a selection. More next month.

Canary Islands: Canary Islands Diploma. Work different EA8 stations since 29 Apr 1971. Spain and Portugal need 60; other Europeans need 40, South and Central America and the Caribbean need 30, USA, Canada and Africa need 20; Asia and Oceania need 10. GCR list and 15 IRC's to: Diploma Islas Canarias, Apartado 860, Las Palmas de Gran Canaria, Canary Islands.

Corsica: Diplome de Corse. Contact at least 5 different resident TK stations. (FC's do not count, nor do portables or repeater contacts). SWL OK. No date or mode restrictions. Available for all cw, all phone, all rtty or mixed modes. Send photocopy of the qsl's plus 15 valid IRC's to: Roland Colin TK5CH, Awards Manager, rue Jean-Nicoll, Rocce Poretta, 20210 Porto Vecchio, Corsica, France

French Guiana: Guyane Award. Requires 6 contacts with FY stations. GCR list and 3 IRCs fee to: Christian Loit FY7AN, Cite Rebard, BP 746, 97305 Cayenne, French Guiana.

Monaco: Principality of Monaco Award. Contact three resident Monaco stations since 1 Jan 1980. Temporary expedition contacts with calls such as 3A0 or /3A do not count. Send cards or photocopies plus \$6US or 10 IRC's to: Association Des RadioAmateurs de Monaco, c/o C. Passet 3A2LF, 7 Rue de la Turbie, MC 98000, Monaco.

Oman: A4X Award. Contact A4X stations: 8 on ssb or 5 on cw. GCR and 5 IRC's to: Award Manager, ROARS, PO Box 981, Muscat, The Sultanate of Oman.

(K1BV publishes the K1BV DX Awards Directory).

Sciare Magazine, a specialist in winter sports, is sponsoring the Nansen 1888-Sciare 1988 award, to celebrate the 100th anniversary of the crossing of Greenland by ski, by the Norwegian explorer (and skier) Fridtjof Nansen. Accumulate 100 points by working stations in Paris (1), London (1*), Norway (1), Oslo (5*), Greenland (10*), Denmark (1), and Sweden (1*). Starred points are compulsory. Contacts with OX/I2DMK (editor of Sciare), and OX/I2BVS count 10 points per band and mode. Except for these two, no station can be contacted more than once. All QSOs during 1988. GCR and 3 IRCs to award manager Mario Ambrosi I2MQP, via Stradella 13, I-20129 Milano, Italy.

QSL INFORMATION

QSL Cards Received

Card From	Via	How Long	Card From	Via	How Long
3A2EE			VKØHI	VK3EVN	5 MOS
3B8CF			VK9MR	VK9NS	4 YRS
3B9FR	F6FNU	5 WKS	VK9YA		
3XØHBR		8 MO	VP2VDX	KT6V	2 WKS
4MØARV			VP5LJ		
4U1UN	NA2K	6 DAYS	VP8BNO	G3LZQ	2 WKS
5B4SA	N4GNR	3 MOS	VS6UO	G3IFB	6 WKS
5H1HK			VU2TJW	KE3A	4 WKS
5L2T			VU4GDG		
5NØWRE			XF4/XE2HUM	W6RQ	10 WKS
5T5NU			XF4CIS	XE1IJ	4 MOS
5U7/TU4BR		6 DAYS	XU1SS	JA4KFA	3 WKS
5V7WD		2 WKS	XU1SS	YB3CN	2 WKS
5Z4SS		4 MOS	XX9MF		2 WKS
6J6UW			YB3ASQ		
8A7ITU	YB7BC	5 WKS	YN3EO	Y32KE	1 MO
8Q7MT	JQ1VFF	6 WKS	YX3A	YV3AJ	
8Q7VG	GW3WVG	3 WKS	ZK1XK	HB9CVX	3 MOS
9H1EL	LA2TO	2 WKS	ZLØAFZ/9		
9J2AL	WDØHHM	5 WKS	ZL5BKM	ZL2HE	3 MOS
9L1GG			ZL7TZ		
9M2HB	AA6BB	2 WKS	ZL9AMO	ZL1AMO	4 MOS
9N7YDY	JA8RUZ	4 MOS	ZL9BQD	ZL1AMO	4 MOS
9Q5DA		4 MOS	Cards Received Direct:		
9Q5NW	AL7EL	1 MO	3B8CF; 3V1ALI,	4 WKS;	
9V1TJ	KØGYK	2 WKS	5B4SA; 5B4TI,	1 MO; 5H3RB;	
9X5AA	W4FRU	1 MO	5W1GF,	11 MOS; 7X2FK,	3
9Y4VU			WKS; 8R1RPN,	8 MOS; 9K2KW,	
A35WJ		2 MOS	2 WKS; 9N1MM,	6 WKS; BV2B,	
A61AB	F2CW	2 WKS	3 WKS; BYØAA;	BY1QH;	
C6A/WS4E	WS4E	2 WKS	BY4RB,	4 MOS; CEØFFD,	4
CEØICD			WKS; D44BC,	3 WKS;	
CI8HO		3 MOS	DV1/K1BAZ;	EP2HZ,	4 WKS;
CN8FC	WA4QMQ	2 WKS	FD1MXQ/TT;	FH8CB,	10 WKS;
F2JD/A6	F6AJA		FK8FF,	4 WKS; GU4WQP,	2
FOØZR	WA9INK	2 WKS	WKS; H25/YU1FW,	1 YR;	
FR/G/FH4EC	F6FNU	8 MOS	HBØ/DL1SCX,	6 WKS;	
FT5ZB	F2DX	7 MOS	HKØ/HK1LDG;	HKØHEU,	1 MO;
FY5YE		7 MOS	I88ITU,	1 MO; JY9LC,	5
HV3SJ			DAYS; KC6HA,	6 DAYS;	
IK2GNW/FW			KC6JC,	3 WKS; KHØ/DK7PE;	
J34LTA		3 MOS	KH1/N01Z;	KH1/VK9NL;	
J34WG	W5PWG	2 WKS	KX6DS;	0X3GH; P29JP,	3
J52US	WA8JOC	2 MOS	MOS; PYØFZ,	4 MOS; PZ1AP,	
J6CQ			6 WKS; PZ1ZV,	3 WKS;	
J87BN		1 MO	SN5JP,	1 YR; T77V,	1 MO;
JW6EDA	LA5NM	3 WKS	TA1E,	25 MOS; TA4A,	1 MO;
JX5DW	LA5DW	11 MOS	TK/DL7HZ,	3 WKS; TR8JJC,	4
JX8KY	LA7ZO		WKS; UA9YX;	UA9YFG,	3 WKS;
KC6TM			UL7NW,	1 MO; V85JB,	3 WKS;
KH1/N01Z	VK9NS	2 MOS	VK9LB;	ZC4AP,	4 MOS;
KH3/WY5L		3 WKS	ZD8MAC;	ZS3GB,	1 MO;
KP5/NJ7D	NG7X	1 MO	ZS7ANT.		
OH6XY/4U	OH3TY	2 WKS	Cards Received via Bureau		
P40V		3 MOS	4MØARV;	4X75TA;	9L/DJ6QT;
P40X			A15AB;	CEØDFL;	CO7KR,
PYØFC	PY7XC	4 MOS	YR;	CT3EU;	EA8ID,
PYØFZ		4 MOS	HGØDG,	11 YRS;	HSØB,
PY1ZFO/0			LU1ZA;	PZ1DV,	1 YR;
RZ1OWA			SØRASD;	UH8CA,	11 MOS;
SØRASD	EA3AOC	8 MOS	UI8CAJ;	UI9BWE,	8 MOS;
T30JS	VK9NS		UP1BZZ,	1 YR;	VS6UP,
TA2AP	KB6LEA	3 WKS	ZC4DX;	ZD7BJ;	5H3BAD,
TU2JT		4 MOS	6	MOS.	
TU2QW	F6FNU		Important Notes:		
TU4BR/5U7	KN4F	5 WKS	Times for returns are		
TXØA	F6HMQ	3 MOS	<u>minimum</u> times reported.		
TY9SI	DJ6SI	6 WKS	Items of special interest		
TZ6VV	NØBLD	1 MO	are in boldface. Thanks to		
UI8LF	KA6V	2 MOS	the many DXers who		
V47Z		7 MOS	contributed this information.		

DX CALL	QSL TO	DX CALL	QSL TO
3B9FR	F6FNU	EW3AP	UA3PPF
3DAØBW	AK1E	EXØDR	RW3DR
3XØA/A	I8YGZ	F2JD/A6	F6AJA
4KØDR	RW3DR	FG5BG	FG4BG
4KØDX	VE3CDX	FH5EF	F6EZV
4S7RO	DJ9ZB	FK/JH1ORL	JN1DPL
4U1UN	NA2K	FK/JJ3IMX	JN1DPL
4Z5UX	JH4RHF	FØØAW	F6BFH
5K7U	NM2R	FØØAQ	F6EYS (F2DX)
5NØELT	HK7II	FØØBY	F6FOL
5NØWRE	G4OHX	FØØZR	WA9INK
5T5EV	K4JZQ	FR4FA/J	F6FNU
5T5NU	I8XIU	FR5ES	F6FNU
5V4WD	DL3KCE	FS/JA2EZD	JA2MNB
5V7RW	F6FNU	FT5ZB	F6EYS (F2DX)
5V7WD	WB4LFM	FV8NDX/P	F6AJA
5Z4DU	WB4LFM	FW/N6LYB	JJ3IMX
6D2DX	WB4LFM	GB75DXN	G4DYO
6W7OG	WB4LFM	HBØ/DL1GSB	DL1GSB
7JØAAA/1	K1DG	HC8VB	KT1N
7JØAAA/1	W8DP	HI3JH	F6FNU
7JØAAA/1	W8JBI	HI8LC	W2KF
7JØAAA/1	JARL	HL9AR	K3LT
7JØAAA/1	JI1DBQ	HL9CU	AA6BB
7JØAAA/1	GW3WVG	HV3SJ	IØDUD
7JØAAA/1	G3TXF	HZ1AB	K8PYD
7JØAAA/1	VK3DXI (88CB)	I2DMK/IP1	I2MQP
7JØAAA/1	WDØHHM	I2NYN/IP1	I2MQP
7JØAAA/1	W6ORD	I88ITU	I8MPO
7JØAAA/1	JA5DQH	J52US	WA8JOC
7JØAAA/1	JA1VDJ	J73D	W2OB
7JØAAA/1	AA6BB/7	J79MD	N4CRU
7JØAAA/1	N6LHN	J87CD	GWØAWT
7JØAAA/1	N7EB	JTØTJ	HA1KSA
7JØAAA/1	JA8RUZ	JW5E	LA5NM
7JØAAA/1	KØGYK	JW5LA	LA5LA
7JØAAA/1	VK3DXI (88CB)	JW5NM	LA5NM
7JØAAA/1	9X5NH	JX8KY	LA7ZO
7JØAAA/1	DJ6EA	W3EVW	DJ9ZB
7JØAAA/1	A35AS	JY8KS	VO1BD
7JØAAA/1	DJ9ZB	JY8XY	OH6XY
7JØAAA/1	N4GNR	K9AJ/KH5K	WA2MOE
7JØAAA/1	A71AU	KC6HA	KA6V
7JØAAA/1	A92EM	KHØAC	K7Z
7JØAAA/1	AXØNE	KH2D	KA3T
7JØAAA/1	AX9NKG	KH2F	N2AU
7JØAAA/1	AY3F	LU6FAZ	KJ4VH/VP2M
7JØAAA/1	AY6D	LU1DJU	KJ4VH
7JØAAA/1	C53GP	G3DQL	KL7LF/KH3
7JØAAA/1	C53GS	G3DQL	LS1E
7JØAAA/1	CE2LZN	LU9FFA	OD5PL
7JØAAA/1	CI8CPU	OD5VT	HB9CRV
7JØAAA/1	CI8CW	VE3CPU	HB9CRV
7JØAAA/1	CI8JH	VE1DH	OH3TY
7JØAAA/1	CN8FC	VE3CKF	P29FG
7JØAAA/1	CP8PAX	WA4QMQ	P29HS
7JØAAA/1	CP8XA	CP5AA	P29MM
7JØAAA/1	CP8XA	DL3NAZ	K4MQG
7JØAAA/1	CQ7AUW	CT1AUW	SØRASD
7JØAAA/1	CR3EU	G3PFS	S79WS
7JØAAA/1	DJ2EY/SV9	DJ2EY	DJ6QT
7JØAAA/1	EKØAA	EW3AG	KØTLM
7JØAAA/1	EL2MS	KD8IW	KA6UUS
7JØAAA/1	EM1AA	UZ1AWV	SV1SV
7JØAAA/1	EM3W	UZ3AZO	DJ9ZB
7JØAAA/1	EM6AAK	UZ6AWA	ZL2QW
7JØAAA/1	EM7BRN	UB4RWW	F6EXV
7JØAAA/1	EO1AWL	UZ1WWE	N6CW
7JØAAA/1	EO2PPP	UP1BZZ	JA5DQH
7JØAAA/1	EO5BGH	RB7GG	C07KR
7JØAAA/1	EO9ACS	UZ9CWW	I2MQP
7JØAAA/1	EU3A	TA1A	W4FRU
7JØAAA/1	EV4AW	TA1E/2	KA1DE
7JØAAA/1	EV9AW	TI2TEB	F6FNU
7JØAAA/1	UV9WN	TK/DL7HZ	DL7HZ

DX CALL	QSL TO	DX CALL	QSL TO
TL8HW	KJ4GK	ZK1DD	G3MCN
TR8JLD	AK1E	ZK1XB	HB9DKQ
TV6OLE	F6AUS	ZK1XG	G3MCN
TXØA	F6HMQ	ZK1XV	VK2BCH
TYØLC	F6FNU	ZL5BKM	ZL2HE
TY9SI (CW)	DJ6SI	ZP5XFA	W6TKV
TZ6FIC	FE6CRS/F6CRS	ZS3BI	DF2AL
TZ6VV	NØBLD		
UAØKK	RB7GG	VU2ZAP	W3HNK
UM8MK	RA4HT	XE2HUM/XF4	W6RQ
UW3HY/1	UW3HY	XF1C	WB6JMS
V21WW	NØDH	XO5FX	VE5FX
V31AK	DJ9JC	XR4TA	CE4TA
V44KI	NØDH	XX9CT	KA6V
V47NXX	AA4FS	YBØATA	N4JR
VI88NSW	VK2 BUREAU	YE4X	YB4FNN
VKØNE	VK9NS	YE7SUN	YC7DF
VK9NKG	VK6NKG	YM2KC	TA1KA
VK9XT	W7SW	YN3EO	Y32KE
VK9YT	W7SW	YS1GMV	W3HNK
VP5LJ	WN5K	YW1A	YV1AVO
VS6UO	G3IFB	ZD7AF	N2AU
VU2NTA	N2AU	ZD7XY	W4FRU
VU2TJW	KE3A	ZD8AE	G3LQP
VU2TTC	W8XM	ZD9BV	W4FRU
WØRLX/KH5	WA2MOE	ZF2KE	K9DX
WY5L/KH3	N5DAS	ZK1XG	G3MCN
XF1C	WB6JMS	ZK1XH	HB9CUY
YB1AQC	W4FRU	ZK2MB	NM7N
YB3ASQ	W7TSQ	ZLØAAC	DL1MAM
YB8ASX	KØIEA	ZLØACF	4X6TT
YØ3EO	Y32KE	ZL7AA	ZL1AMO
YØ1GMV	W3HNK	ZS3Z	ZS6BCR
		ZS66AOO	WA3HUP

QSL Help Wanted

- UA1OT (6/87) for W3HCW. He tried W7PHO, KA6V, W3HNK, and direct, without success. Also CEØICD. No answer in seven months, even with \$\$ and stamps.
- CR7LE, (72), VK9ES (71), and 5A1TG (68) for N6JM.
- PAØTAU has been chasing 10-meters QSLs from S9VCT (no response from K5VT), VE1CR/1 (9/79, no answer from VE7BTB), CP6EE (11/82, no answer via Callbook adr.), and 9M6MU (4/80, no answer from K2TJ.)
- W3KYN needs JH5KZC's address (manager for P29HS), and a route for C3ØLFC.
- VE1ACK continues to track ET2US from 1962. Op was Dick Cormier. Anyone know Dick? Another ET2US op was Bob Tracy K5KDN.
- W1TSP has traced his 1952 QSO with KT1BB to operator N.H. (Bud) Black. Any help?
- FB8XY's mail is returned from Kerquelen. Anyone have a new address to help N4KG?
- K2PEQ looks for help with CR6IU (1/67), K25MN (3/59), KZ5RH (4/59), W4RWY/1M, and KV4AA (5/59, K6PBT doesn't have early logs.)
- KEØY needs H44HD (8/87) and CN8FA (3/88) info.
- PY1OL wants PJ2HB (1/86, no answer from '86 Callbook adr.), VQ9DX (10/84, no answer from VQ9 bureau, op was N6KDC), 6T1YP (1/86, no answer from CBA), VQ9SK (3/86 no answer from WB6SKS), SVØCJ/SV5 (7/86, no answer from Box 349, Rhodes), and VE2ACP (3/87 no answer CBA)
- W9NTU looks for info on HL1XP CQ WPX SSB '88.
- A35AS (not 'SA) for VE7COP.

KH5/KH5K QSL Cards

Mike K9AJ reports that "the only cards returned in the past month are those 'not in the log.' In the future, where enclosed postage is insufficient, whatever number of cards can be accommodated in the enclosed SASE will be answered and all others sent by the bureau-the decision as to which cards to send direct being at the discretion of the QSL manager." [Thanks for clearing this up, Mike. Also, see note on manager WA2MOE at right. -ed.]

- QSL Help Provided**
- 5Z4DE was N4VV, QSL manager was W4PKM.
 - 5U7LD was via IN3RZY, but operation was not accepted for DXCC, and IN3RZY didn't QSL.
 - EA6VQ's card gives address as Box 1534, 07080 Palma de Maiorla, Spain. CBA and bureau also have worked.
 - P29EJ from 1981 is now VK4BKM, and will QSL.
 - 4S7WP QSLed from W.P.S.Perera, 11A Wijata Rd., Kolonnawa, Wellampitiya, Sri Lanka.
 - FB8WK is now via Jean Marie Niel F6EYB, 4 Rue Debussy, 91240 St. Michel sur Orge, France.
 - P4A has not been issued. May be P40A, QSL KA1XN.
 - DX9HT is via Ham 10 Radio Club, Box 96, Cagayah de Oro City, Philippines 9000.
- [Thanks to PY1OL, KA1XN, OK1-30633, VE1ACK, K3ZO, and others for QSL help.]

QSL Notes

- Active QSL manager WA4WTG has a new address: 718 SE 3 Lane, Dania FL 33004. Kappy is manager for FY4AE TJ1BF V2AK ZF2GE 5Z4RH 6Y5MC 6Y5RL 8P6AH 8P6BN 8P6IB 8PØA P29RY 4X4FF/5N4 and many others.
- F2DX (ex-F6EYS) must turn over his manager chores to Joel Cathelain F6ESH, 4 Place de la Gendarmerie, 59710 Pont a Marcq, France. QSL FT5ZB FT2XE FT5YB 6W2EX FOØAQ TK5EP via F6ESH. QSL TPØCE/TP2CE CW QSOs to F6FSQ. QSL F2DX/FJ, /FS, /PJ5, and /PJ6 to F6BFH.
- VP2MU May 1988 is via W6AB, Box 5117, Vandenberg AFB CA 93437.
- 9Q6DX is via KQ3S, who should have QSLs by now.
- QSL 4C2JTW from CW WPX to CBA of AA5B.
- Paul Posey N4BPP wants to close out ZS1JD 9Y4DK 9Y4DRL 6W8IG C5ABV 5B4PC A9XDA A92DA logs, for QSOs prior to 1987. 1911 Courtney Dr., N. Augusta SC 29841.
- C31IU is via W8JAQ for QSOs 1975-1983 only. Activity this Spring was not by K9MW, and was probably a pirate. C31IU gave W9FSS as QSL manager. W9FSS is a Silent Key.
- Sergio LU1MPM handles AZ4M LU4M CE2/LU4MEE LU4MEE LU1MFK LU1MPU via bureau (Box 97, 1000 Buenos Aires) or direct to Box 382, 5500 Mendoza, Argentina.
- QSL LR1V via Radio Club Bariloche, Box 297, 8400 Bariloche, Argentina.
- Dave KZ8Y says he is not manager for 4S7AVR-8Q7AV. QSL these calls to Noel Lokuge, 15/2 Balahenmulla Lane, Colombo 6, Sri Lanka. Dave is manager for 4S7NMR 8Q7AZ (1984+) N8DCJ/8P6 and 8P6G (1983-4 only.)
- Recent Silent Key ZS5IV is QSLed via KA1ERN.
- New address for Zone 2 DXpeditioner VE2EDK is 37 Sauvageau, Beauport G1C 5N2 Quebec.
- Several P29 hams report problems with P29 bureau.

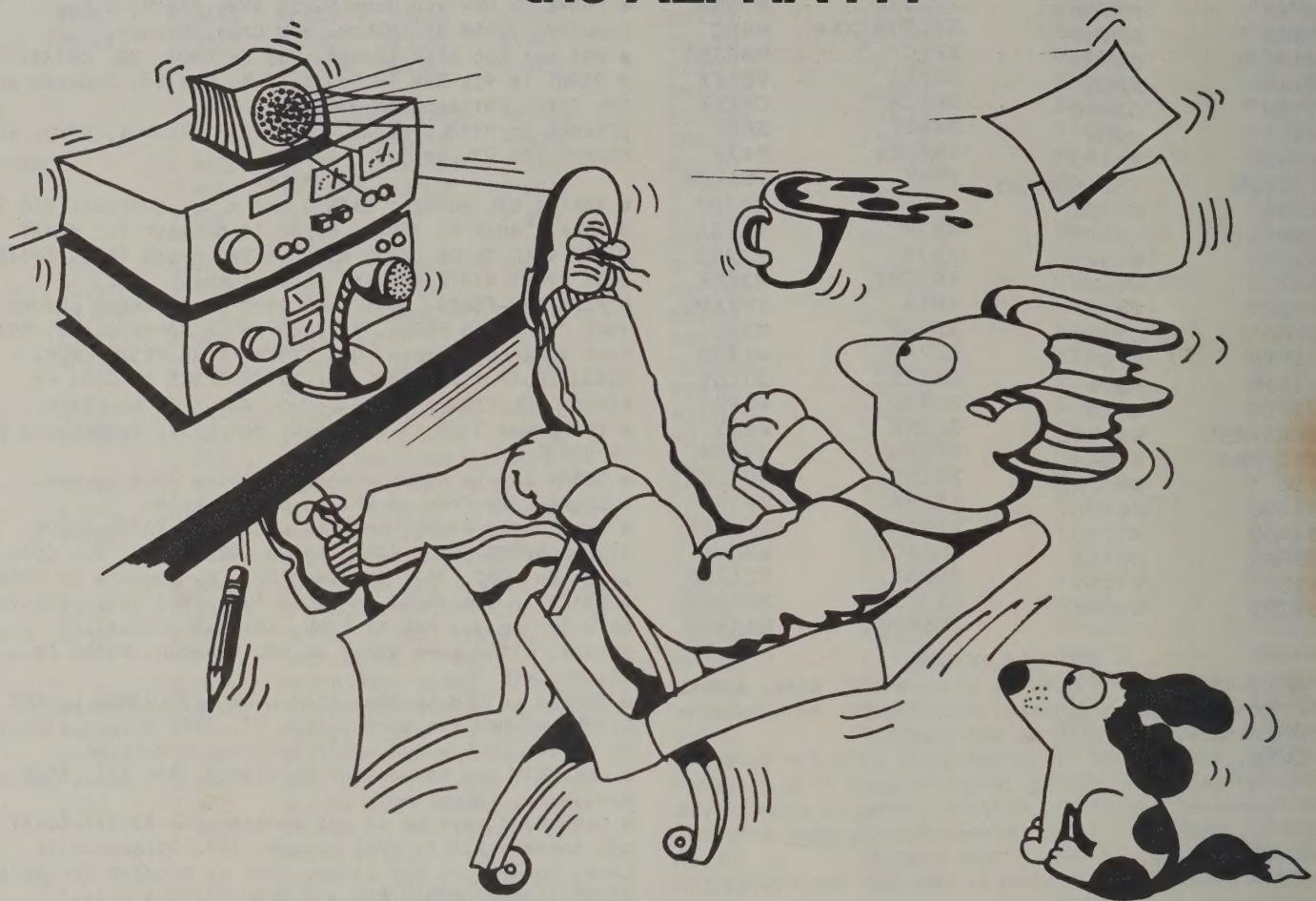
DX Call QTH Information

4S7WP	Box 80, Colombo, Sri Lanka
7X2FK	Box 105, Rouiba, Algeria
AP2AU	Box 224, Lahore, Pakistan
EP2DL	David, Box 17845-151, Tehran, Iran
EP2HZ	Hassan, Box 16765-3133, Tehran, Iran
HR1GSK	Gary Hesler, Minas de Oro, Dept. of Com, Honduras
KK7K/DU3	Lon Tenant, PSC 2, Box 13383, APO San Francisco CA 96311
KX6HN	Bill, Box 548, APO San Francisco CA 96555
N2HLZ/KP2	Brad Jamieson, Box 61, St. Thomas VI 00801
OK1AEX/5NØ	Box 1009, Lagos, Nigeria
SV9AKD	Box 1224, Iraklion, Crete, Greece
TE2D	Teodoro Evans TI2TEB, Box 2612, San Jose 1000, Costa Rica
ZK2JT	John Thompson, Box 37, Niue

Good Guy QSLers

The DX Bulletin salutes these QSLers who provided QSL service above and beyond the norm: 9K2KW for direct return without postage, BV2B, who returned one of two US\$ sent, NA2K and KN4F for one-week response from 4U1UN and TU4BR/5U7, and WA2MOE, who spent hours trying to tract a KH5 QSO for a West Coast DXer.

"... (click) ...
just turned on
the ALPHA ..."



ALPHA—The Serious Operator's Choice

Contesters take their amateur radio very seriously. Success in long weekends of tough contesting demands a big signal and outstanding equipment reliability—exactly what every **ALPHA** linear amplifier is designed and built to deliver.

Respondents to the *NATIONAL CONTEST JOURNAL* 1988 Reader Survey do a lot of operating and they tend to favor the big, intensively competitive DX contests. They average over 12 years of operating experience and 89% hold Extra Class licenses. You'd expect them to prefer **ALPHA** amplifiers.

But even we were surprised at the extent to which these top operators choose **ETO/ALPHA** over all other amplifier brands (see table).

Table 4—Comparison of HF Amplifier Manufacturers

NCJ Survey 1988 vs 1981

Manufacturer	1988	1981
Home-brew	23%	17%
ETO-Alpha	21%	17%
Heathkit	20%	37%
Denton	7%	13%
Drake	6%	—
Ameritron	5%	—
Henry	4%	3%
Amp Supply	3%	—
Other	11%	4%

Table and operator statistics excerpted with permission from March/April 1988 issue of the NATIONAL CONTEST JOURNAL, published by the American Radio Relay League, Inc.

You don't have to be a contester or a DXer to enjoy the benefits of owning an **ALPHA**. If you appreciate fine equipment—if you want maximum legal power available whenever (and for however long) you need it—if you want quality and a factory warranty that takes the worry out—isn't a new **ALPHA** just what you need?

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